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EXAMINER				
WASSUM, LUKE S				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary

Application No.

10/807,264

Applicant(s)

WEISSMAN ET AL.

Examiner

Luke S. Wassum

Art Unit

2167

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-22 and 57-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-22 and 57-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 31 December 2008 has been entered.

Response to Amendment

2. The Applicants' amendment, filed 31 December 2008, has been received, entered into the record, and considered.

3. As a result of the amendment, claims 16-22 have been amended, claims 23-43, 45-47, 55 and 56 have been canceled, and new claims 57-70 have been added. Claims 1-15, 44 and 48-54 had been previously canceled. Claims 16-22 and 57-70 are now pending in the application.

Priority

4. The Applicants' claim to domestic priority under 35 U.S.C. § 120, as a continuation of application 09/493,701, filed 28 January 2000, which is a continuation-in-part of application 09/431,760, filed 1 November 1999, is acknowledged.
5. Since the limitations of the claims, particularly the feature of ordering documents/advertisements based upon a monetary value associated with said documents/advertisements, does not appear to be supported by application 09/431,760, the priority date of the claims of the instant invention will be determined on a claim-by-claim basis as necessary.

Claim Objections

6. Claims 61, 62 and 68 are objected to because of the following informalities:
- Regarding claims 61 and 68, there is an apparent typographic error: 'from an advertiser associated with each advertiser' should be 'from an advertiser associated with each *advertisement*'.

Regarding claim 62, this claim is not terminated with a period.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 59 and 66 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There does not appear to be sufficient support in the Applicants' disclosure for the limitation that the predetermined radius is user selected.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 60 and 67 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 60 and 67 recite the limitation "the first semantic space". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under

37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lazarus et al.** (U.S. Patent 6,134,532) in view of **Addison et al.** (European Patent Application EP 0,597,630) in view of **Eldering** (U.S. Patent 6,298,348).

15. Regarding claim 16, **Lazarus et al.** teaches a method substantially as claimed, comprising:

- a) organizing advertisements according to their meaning into a lexicon, the lexicon defining elements of a semantic space (see disclosure that content or entity vectors are a high dimensional, real vector representation that encodes contextual similarity, col. 4, lines 64-67; see also disclosure that web pages, banner ads, coupons and any other textual or symbolic information are represented by a summary content vector having the

property that pages that discuss similar information have summary content vectors that point in similar directions, col. 5, lines 10-17; see also disclosure that the system computes an initial content vector for an advertisement, col. 8, lines 58-65; see also disclosure that ads can be sold in a thematic region of interest, such as the regions of the vector hyperspace close to the words in the ad and not just a selected set of words, col. 9, lines 7-14; see also the disclosure of the details of the calculation of an entity vector to a particular entity, col. 14, line 54 through col. 15, line 30);

- b) identifying one or more documents related to the received search key words (see disclosure of prior art systems for displaying targeted advertisements to users that determine advertisements to be displayed by correlating the advertisement with search key words entered by the user, col. 1, lines 44-58; see also col. 2, lines 39-41; see also col. 3, lines 29-47); and
- c) transmitting for display the one or more documents (see disclosure that when an observed user behavior, such as a user-issued query contains a known keyword, one of the ads associated with the keyword is selected for display, col. 3, lines 32-35).

Lazarus et al. does not explicitly teach a method for displaying documents wherein the documents are selected on the basis of matching concepts (as opposed to matching keywords).

Addison et al., however, teaches a method for displaying documents comprising:

- a) receiving a concept (see disclosure of performing a concept search, page 4, Concept Definition and Search);
- b) determining one or more concepts close in meaning to the received concept (see disclosure that the user's query is 'exploded' into related concepts, page 12, lines 45-46; see also the disclosure of step 3 Look for Closely Associated Concepts, page 13, lines 29-39);
- c) identifying one or more advertisements in a semantic space related to the received concept and the one or more concepts close in meaning to the received concept based on meanings of the received concept and the one or more concepts (see disclosure that the word senses in the user's request, along with closely associated concepts, are used as keys into the database of concepts to find concept references which point to particular documents, step 5 Index into the Concept Indexes, page 13, lines 51-57); and

d) transmitting for display the one or more documents based on an order (see disclosure that the results of the text searching are retrieved and displayed in ranked order, page 5, lines 50-52; see also disclosure that the final display containing the matched documents is prepared and transmitted to the display, page 16, lines 26-29; see also disclosure of ranking of results, page 15, beginning on line 12).

It would have been obvious to one of ordinary skill in the art at the time of the invention to display documents wherein the documents are selected on the basis of matching concepts (as opposed to matching keywords), since **Lazarus et al.** explicitly teaches that a shortcoming of matching documents (in this case, advertisements) on the basis of matching search key words is that advertisements that are conceptually close but do not contain the specified key words would be missed (col. 2, lines 39-40), and furthermore, because searching for "concepts" has been found to be more accurate than Boolean, keyword or statistical searching as practiced in the prior art (see **Addison et al.**, page 2, lines 6-8).

Neither **Lazarus et al.** nor **Addison et al.** explicitly teaches a method wherein the documents are ordered corresponding to the relationship between monetary values determined for each of the identified documents.

Eldering, however, teaches a method wherein the documents are ordered corresponding to the relationship between monetary values determined for each of the identified documents (see disclosure that advertisements can be assigned a value commensurate with their perceived value to the advertiser, such that if an advertisement is found to be very highly correlated with a consumer's product preferences [which, in this case, would be determined by matching the concept for which the consumer is searching with the concept associated with a given advertisement], a relatively high price can be charged for transmitting the advertisement to the consumer, since it can be assumed that if said correlation is high, it is likely that the advertisement will be of interest to the consumer, and therefore more likely to result in a sale for the advertiser, see col. 3, lines 46-56).

It would have been obvious to one of ordinary skill in the art at the time of the invention to order retrieved documents based upon the relationship between monetary values determined for each of the identified documents, since the value assigned to the

documents [in this case, advertisements] correspond to the perceived value to the advertiser, such that if an advertisement is found to be very highly correlated with a consumer's product preferences [as determined by matching the concept for which the consumer is searching with the concept associated with a given advertisement], a relatively high price can be charged for transmitting the advertisement to the consumer, since it can be assumed that if said correlation is high, it is likely that the advertisement will be of interest to the consumer, and therefore more likely to result in a sale for the advertiser (see col. 3, lines 46-56).

16. Regarding claims 17, 18 and 20-22, **Eldering** additionally teaches a method wherein the order is based on descending predicted relevance/semantic distance/degree of closeness in meaning/context of the advertisement to the received concept (see disclosure that that the price charged to access to consumers varies as a function of the applicability of the advertisement to the consumer, col. 5, lines 36-44).

17. Regarding claim 19, **Eldering** teaches a method wherein the monetary values are prices associated with viewings of the one or more advertisements (see col. 3, lines 46-56).

18. Claims 57 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lazarus et al.** (U.S. Patent 6,134,532) in view of **Hazlehurst et al.** (U.S. Patent 5,974,412).

19. Regarding claim 57, **Lazarus et al.** teaches a method substantially as claimed, comprising:

- a) organizing advertisements according to their meaning into a lexicon, the lexicon defining elements of a semantic space (see disclosure that content or entity vectors are a high dimensional, real vector representation that encodes contextual similarity, col. 4, lines 64-67; see also disclosure that web pages, banner ads, coupons and any other textual or symbolic information are represented by a summary content vector having the property that pages that discuss similar information have summary content vectors that point in similar directions, col. 5, lines 10-17; see also disclosure that the system computes an initial content vector for an advertisement, col. 8, lines 58-65; see also disclosure that ads can be sold in a thematic region of interest, such as the regions of the vector hyperspace close to the words in the ad and not just a selected set of words, col. 9, lines 7-14; see also the

- disclosure of the details of the calculation of an entity vector to a particular entity, col. 14, line 54 through col. 15, line 30);
- b) receiving an input term (see disclosure of the receipt of a user query, col. 17, lines 5-7 and 24-27);
- c) identifying a first point in the semantic space associated with the input term based on an interpretation of potential meanings of the input term (see disclosure of the transformation of a query into a content vector, col. 17, lines 24-31 et seq.);
- d) identifying an advertisement proximate in semantic distance to the search term, wherein the semantic distance identifies how closely related the advertisement is to the search term (see disclosure that the system performs the optimum entity selection by performing dot products of the query and content vectors, col. 17, lines 59-67 et seq.); and
- e) providing the advertisement in response to the search term (see disclosure that the selected advertisement is displayed to the user, col. 18, lines 15-20 et seq.).

Lazarus et al. does not explicitly teach a method wherein a semantic sub-space is first selected based upon a predetermined radius of the first point.

Hazlehurst et al., however, teaches a method wherein a semantic sub-space is first selected based upon a predetermined radius of the first point (see disclosure that candidate object vectors are selected by identifying object vectors within a distance D of the centroid vectors, col. 21, lines 41-46).

It would have been obvious to one of ordinary skill in the art at the time of the invention to first select a sub-space of candidate advertisements, since this can significantly reduce the number of semantic comparisons in vector space required, since the query need not be compared with every object vector in the database, col. 21, lines 17-30).

20. Regarding claim 64, **Lazarus et al.** teaches a system substantially as claimed, comprising one or more computers and a storage device coupled to the one or more computers having instructions stored thereon (see drawing Figure 1; see also col. 7, lines 5-53 et seq.) which when executed by the one or more computers, cause the one or more computers to perform operations comprising:

- a) organizing advertisements according to their meaning into a lexicon, the lexicon defining elements of a semantic space (see disclosure that content or entity vectors are a high dimensional, real vector representation that encodes contextual similarity, col. 4, lines 64-67; see also disclosure that web pages, banner ads, coupons and any other textual or symbolic information are represented by a summary content vector having the property that pages that discuss similar information have summary content vectors that point in similar directions, col. 5, lines 10-17; see also disclosure that the system computes an initial content vector for an advertisement, col. 8, lines 58-65; see also disclosure that ads can be sold in a thematic region of interest, such as the regions of the vector hyperspace close to the words in the ad and not just a selected set of words, col. 9, lines 7-14; see also the disclosure of the details of the calculation of an entity vector to a particular entity, col. 14, line 54 through col. 15, line 30);
- b) receiving an input term (see disclosure of the receipt of a user query, col. 17, lines 5-7 and 24-27);
- c) identifying a first point in the semantic space associated with the input term based on an interpretation of potential meanings of the input term (see

disclosure of the transformation of a query into a content vector, col. 17, lines 24-31 et seq.);

- d) identifying an advertisement proximate in semantic distance to the search term, wherein the semantic distance identifies how closely related the advertisement is to the search term (see disclosure that the system performs the optimum entity selection by performing dot products of the query and content vectors, col. 17, lines 59-67 et seq.); and
- e) providing the advertisement in response to the search term (see disclosure that the selected advertisement is displayed to the user, col. 18, lines 15-20 et seq.).

Lazarus et al. does not explicitly teach a system wherein a semantic sub-space is first selected based upon a predetermined radius of the first point.

Hazlehurst et al., however, teaches a system wherein a semantic sub-space is first selected based upon a predetermined radius of the first point (see disclosure that candidate object vectors are selected by identifying object vectors within a distance D of the centroid vectors, col. 21, lines 41-46).

It would have been obvious to one of ordinary skill in the art at the time of the invention to first select a sub-space of candidate advertisements, since this can significantly reduce the number of semantic comparisons in vector space required, since the query need not be compared with every object vector in the database, col. 21, lines 17-30).

21. Claims 58, 60, 65 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lazarus et al.** (U.S. Patent 6,134,532) in view of **Hazlehurst et al.** (U.S. Patent 5,974,412) as applied to claims 57 and 64 above, and further in view of **Balogh et al.** (U.S. Patent 5,493,677).

22. Regarding claims 58 and 65, **Lazarus et al.** and **Hazlehurst et al.** teach a method and system substantially as claimed.

Neither **Lazarus et al.** nor **Hazlehurst et al.** teaches a method and system wherein an indication of a particular meaning is received.

Balogh et al., however, teaches a method and system wherein an indication of a particular meaning is received (see disclosure that the user can select a word sense that most closely matches the concept of intended meaning for any particular word submitted, col. 5, lines 16-26 et seq.).

It would have been obvious to one of ordinary skill in the art at the time of the invention to allow a user to specify particular meanings for submitted words, since this would remove ambiguity, thus ensuring that advertisements retrieved and displayed to the user more closely matched the meaning of the query terms submitted (see col. 5, line 16).

23. Regarding claims 60 and 67, **Balogh et al.** additionally teaches a method and system wherein keywords and associated meanings are determined and displayed to the user (see disclosure that the captioner is presented with a list of possible senses and asked to indicate which sense is intended, col. 5, lines 22-24).

It would have been obvious to one of ordinary skill in the art at the time of the invention to allow a user to specify particular meanings for submitted words, since this would remove ambiguity, thus ensuring that advertisements retrieved and displayed to

the user more closely matched the meaning of the query terms submitted (see col. 5, line 16).

24. Claims 59 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lazarus et al.** (U.S. Patent 6,134,532) in view of **Hazlehurst et al.** (U.S. Patent 5,974,412) as applied to claims 57 and 64 above, and further in view of **Heckerman et al.** (U.S. Patent 6,216,134).

25. Regarding claims 59 and 66, **Lazarus et al.** and **Hazlehurst et al.** teach a method and system substantially as claimed.

Neither **Lazarus et al.** nor **Hazlehurst et al.** teaches a method and system wherein the predetermined radius is selected by a user.

Heckerman et al., however, teaches a method and system wherein the predetermined radius is selected by a user (see disclosure that data analysis can be performed wherein the data analyst can select a similarity threshold which will dictate

which nodes will be associated with corresponding nodes; i.e., those nodes whose similarity metric exceeds the user-selected similarity threshold will be deemed to be 'similar enough' to be associated, col. 3, lines 45-50 et seq.).

It would have been obvious to one of ordinary skill in the art at the time of the invention to allow a user to 'tune' a similarity determination process, since this would allow a user to have a greater degree of control over the degree of similarity of interest, and thus can tune the number of results returned as well.

26. Claims 61-63 and 68-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lazarus et al.** (U.S. Patent 6,134,532) in view of **Hazlehurst et al.** (U.S. Patent 5,974,412) as applied to claims 57 and 64 above, and further in view of **Eldering** (U.S. Patent 6,298,348).

27. Regarding claims 61-63 and 68-70, **Lazarus et al.** and **Hazlehurst et al.** teach a method and system substantially as claimed, including receiving an indication of a meaning to associate with each advertisement from an advertiser associated with each

advertisement (see disclosure of the prior art keyword based ad selection, whereby keywords are manually associated with advertisements, **Lazarus et al.** col. 3, lines 30-36).

Neither **Lazarus et al.** nor **Hazlehurst et al.** teaches a method and system wherein a cost-per-impression is charged, and wherein the cost-per-impression is modified inversely to the semantic distance between the meaning of the advertisement and the location in semantic space of the meaning of the input term.

Eldering, however, teaches a method and system wherein a cost-per-impression is charged, and wherein the cost-per-impression is modified inversely to the semantic distance between the meaning of the advertisement and the location in semantic space of the meaning of the input term (see disclosure that advertisements can be assigned a value commensurate with their perceived value to the advertiser, such that if an advertisement is found to be very highly correlated with a consumer's product preferences [which, in this case, would be determined by matching the concept for which the consumer is searching with the concept associated with a given advertisement], a relatively high price can be charged for transmitting the advertisement to the consumer, since it can be assumed that if said correlation is high, it

is likely that the advertisement will be of interest to the consumer, and therefore more likely to result in a sale for the advertiser, see col. 3, lines 46-56).

It would have been obvious to one of ordinary skill in the art at the time of the invention to order retrieved documents based upon the relationship between monetary values determined for each of the identified documents, since the value assigned to the documents [in this case, advertisements] correspond to the perceived value to the advertiser, such that if an advertisement is found to be very highly correlated with a consumer's product preferences [as determined by matching the concept for which the consumer is searching with the concept associated with a given advertisement], a relatively high price can be charged for transmitting the advertisement to the consumer, since it can be assumed that if said correlation is high, it is likely that the advertisement will be of interest to the consumer, and therefore more likely to result in a sale for the advertiser (see col. 3, lines 46-56).

Response to Arguments

28. Applicant's arguments filed 31 December 2008 have been fully considered but they are not persuasive.

29. Regarding the Applicants' argument that the prior art of record fails to disclose 'organizing advertisements according to their meaning into a lexicon, the lexicon defining elements of a semantic space' as well as the remaining limitations of independent claim 16, the examiner respectfully disagrees.

In general, the examiner directs the Applicants' attention to the new rejections of record.

In particular, regarding the organization of advertisements within a semantic space, the examiner disagrees with the Applicants' arguments. The **Lazarus et al.** reference teaches that advertisements are arranged within the semantic space in the form of content or entity vectors, which define a point in a multi-dimensional semantic space. See, for instance, the disclosure that content vectors have the property that pages that discuss similar information have content vectors that point in similar directions, col. 5, lines 10-17; see also disclosure that the disclosed system allows ads to be sold based upon regions in the vector hyperspace [the claimed semantic space] close to the words in the ad, and not just a selected set of words, col. 9, lines 8-14.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke S. Wassum whose telephone number is 571-272-4119. The examiner can normally be reached on Monday-Friday 8:30-5:30, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

In addition, INFORMAL or DRAFT communications may be faxed directly to the examiner at 571-273-4119, or sent via email at luke.wassum@uspto.gov, **with a previous written authorization in accordance with the provisions of MPEP § 502.03.** Such communications must be clearly marked as INFORMAL, DRAFT or UNOFFICIAL.

Customer Service for Tech Center 2100 can be reached during regular business hours at (571) 272-2100, or fax (571) 273-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



/Luke S. Wassum/
Primary Examiner
Art Unit 2167